Configurazione del tunnel L2TP tra un computer Windows e un router Cisco

Sommario

[Introduzione](#)
[Prerequisiti](#)
[Requisiti](#)
[Componenti usati](#)
[Configurazione](#)
[Esempio di rete](#)
[Configurazioni](#)
[Verifica](#)
[Risoluzione dei problemi](#)
[Informazioni correlate](#)

Introduzione

In questo documento viene descritto come configurare un tunnel Layer 2 Tunneling Protocol (L2TP) tra un computer Windows e un router Cisco.

Prerequisiti

Requisiti

Cisco consiglia di essere a conoscenza del fatto che il computer Windows può eseguire il ping dell'indirizzo IP dell'interfaccia fisica sul router.

Componenti usati

Il documento può essere consultato per tutte le versioni software o hardware.

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

Configurazione

Esempio di rete

Nel documento viene usata questa impostazione di rete:

Configurazioni

Configurazione aggregatore:

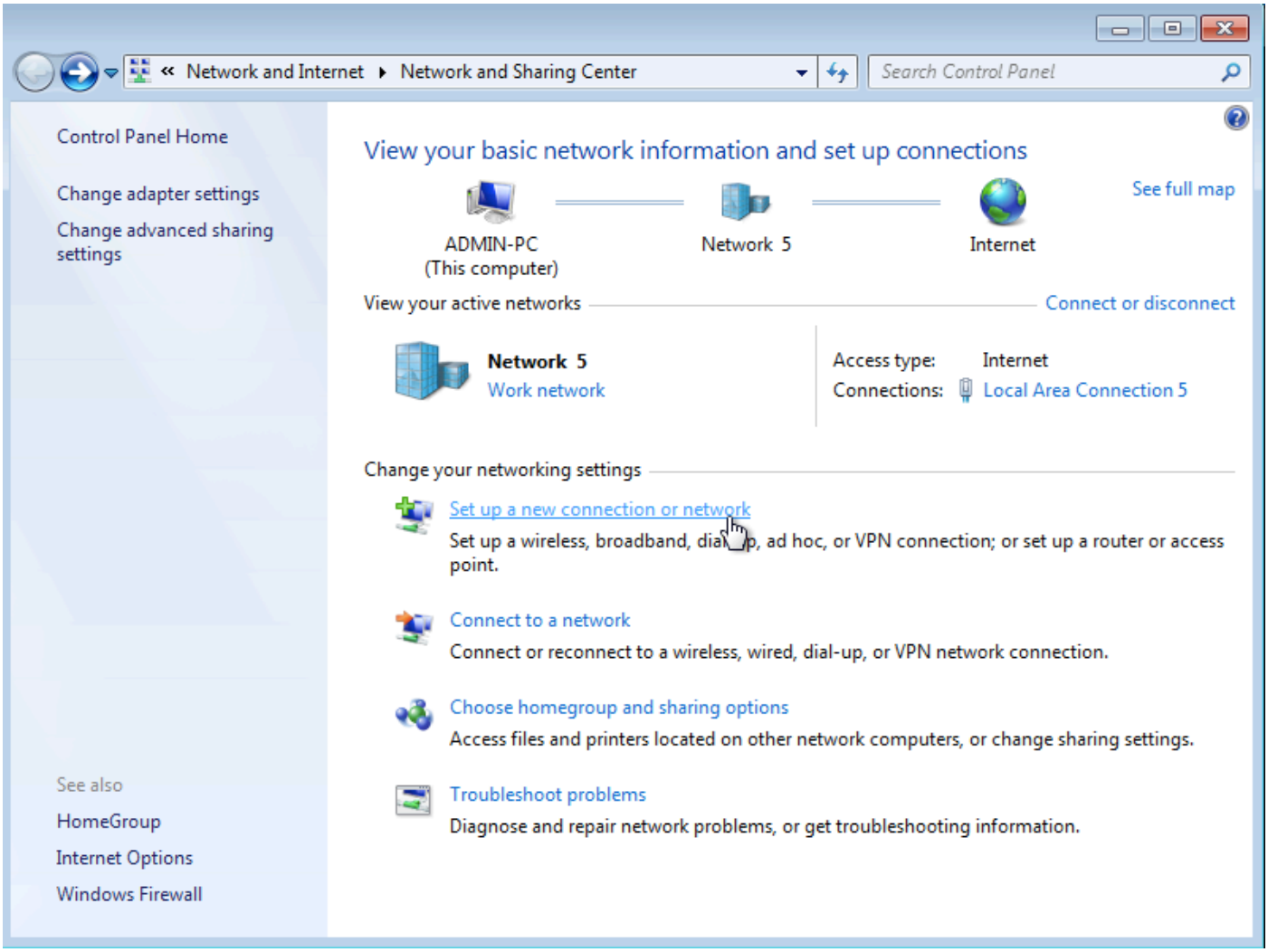
Di seguito è riportato un esempio della configurazione di Aggregator:

```
interface GigabitEthernet0/0/1
 ip address 192.168.1.1 255.255.255.0
 negotiation auto
end   interface Loopback100
 ip address 172.16.1.1 255.255.255.255
end   vpdn enable
vpdn-group 1
 ! Default L2TP VPDN group
 accept-dialin
 protocol l2tp
 virtual-template 1
 no l2tp tunnel authentication   interface Virtual-Template1
 ip unnumbered Loopback100
 peer default ip address pool test
 ppp authentication chap callout
 ppp ipcp dns 4.2.2.1 4.2.2.2
end   ip local pool test 10.1.1.2 10.1.1.100
```

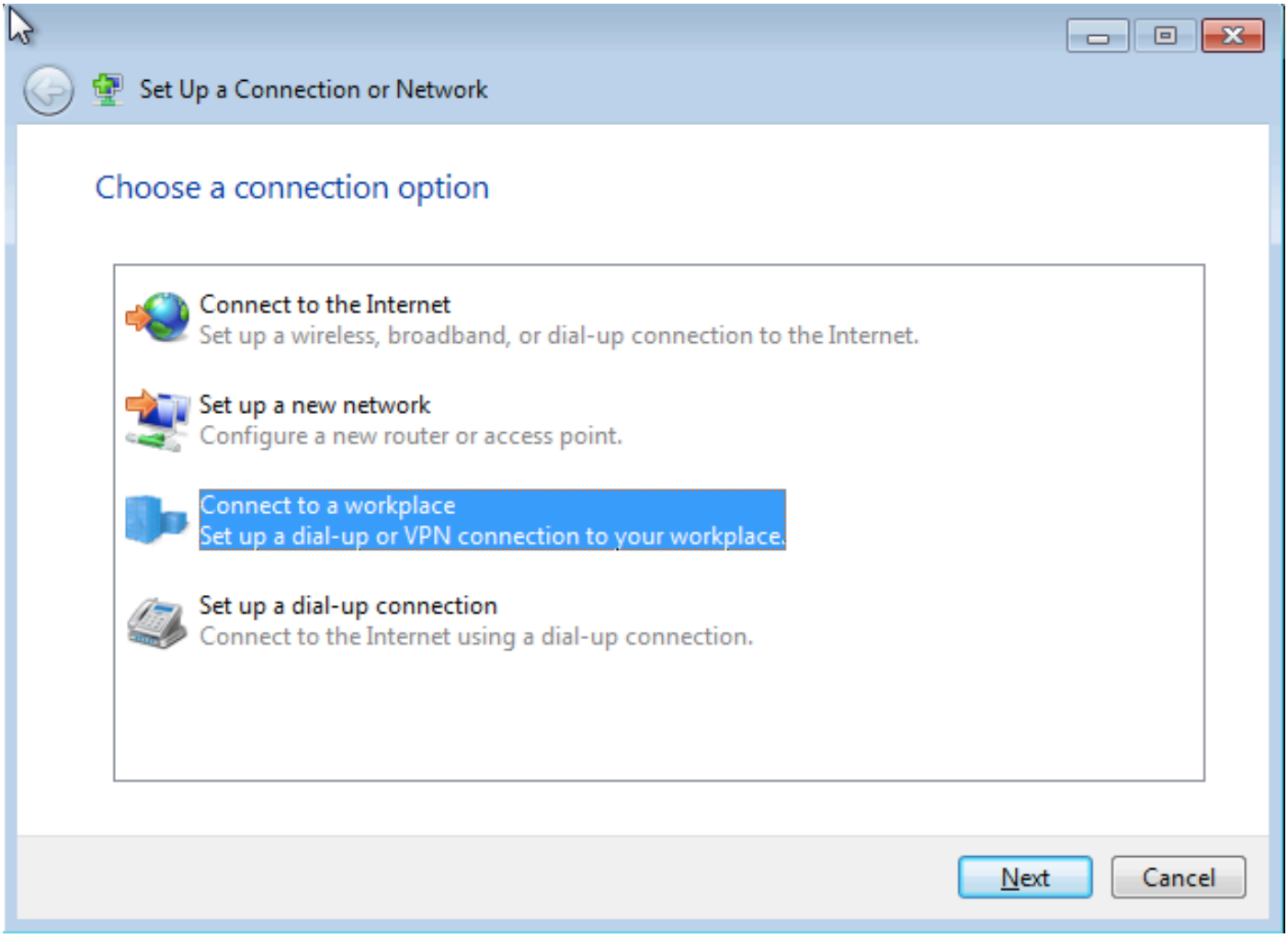
Configurazioni e impostazioni del computer Windows

Attenersi alla seguente procedura:

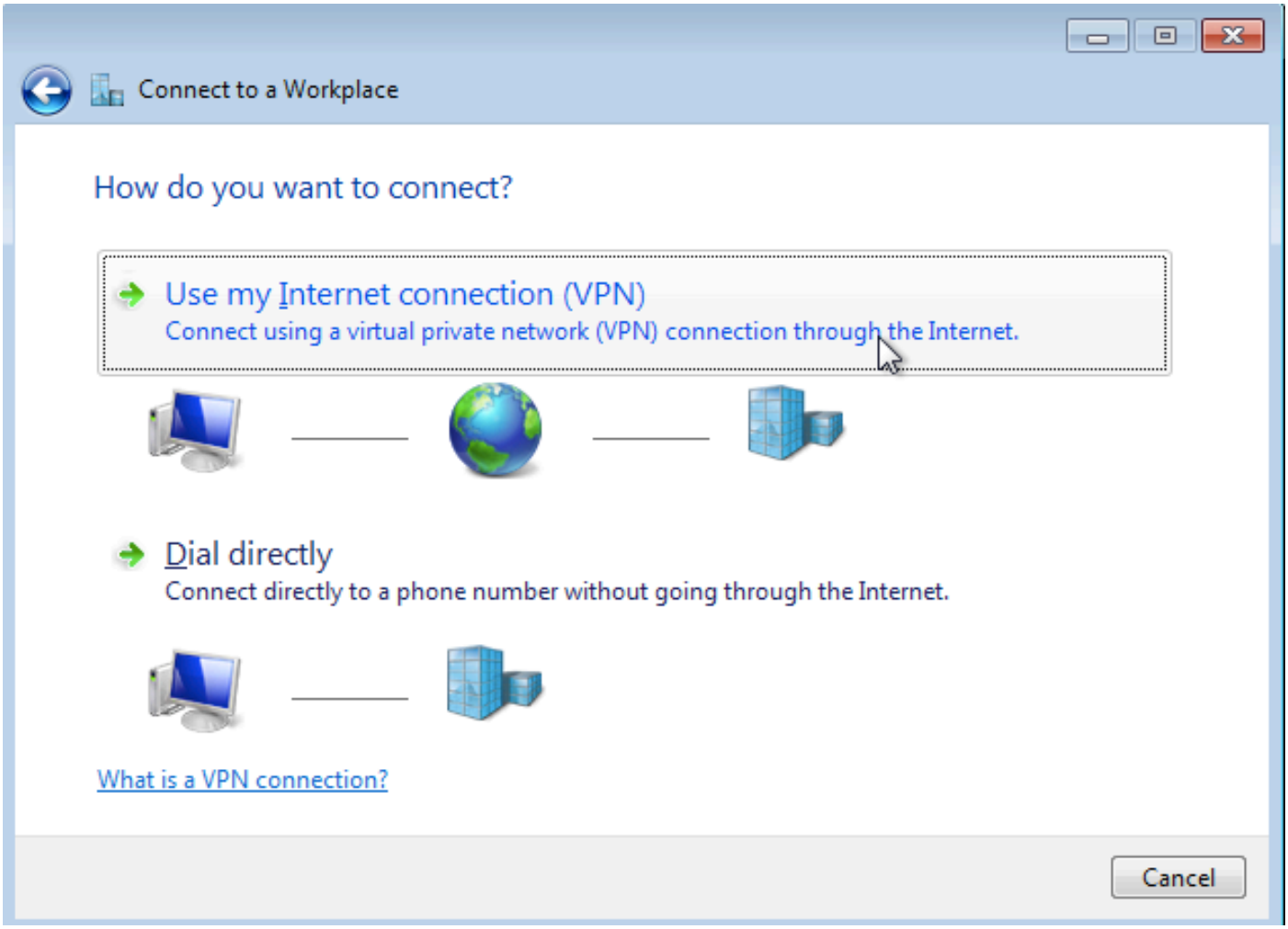
Passaggio 1. Aprire **Centro connessioni di rete e condivisione** e fare clic su **Configura una nuova connessione o rete** come mostrato nell'immagine.



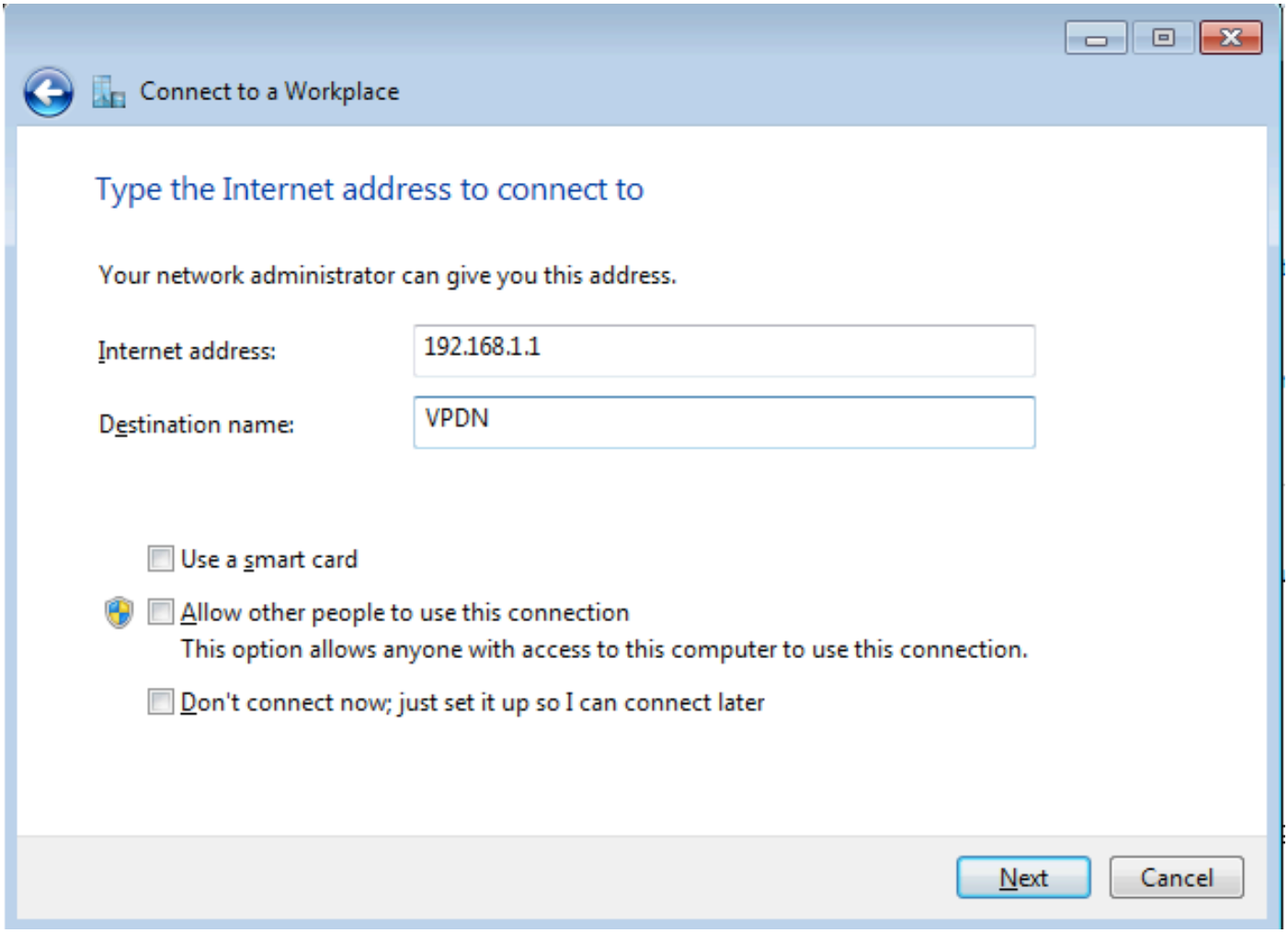
Passaggio 2. Selezionare **Connetti a una rete aziendale** e fare clic su **Avanti**



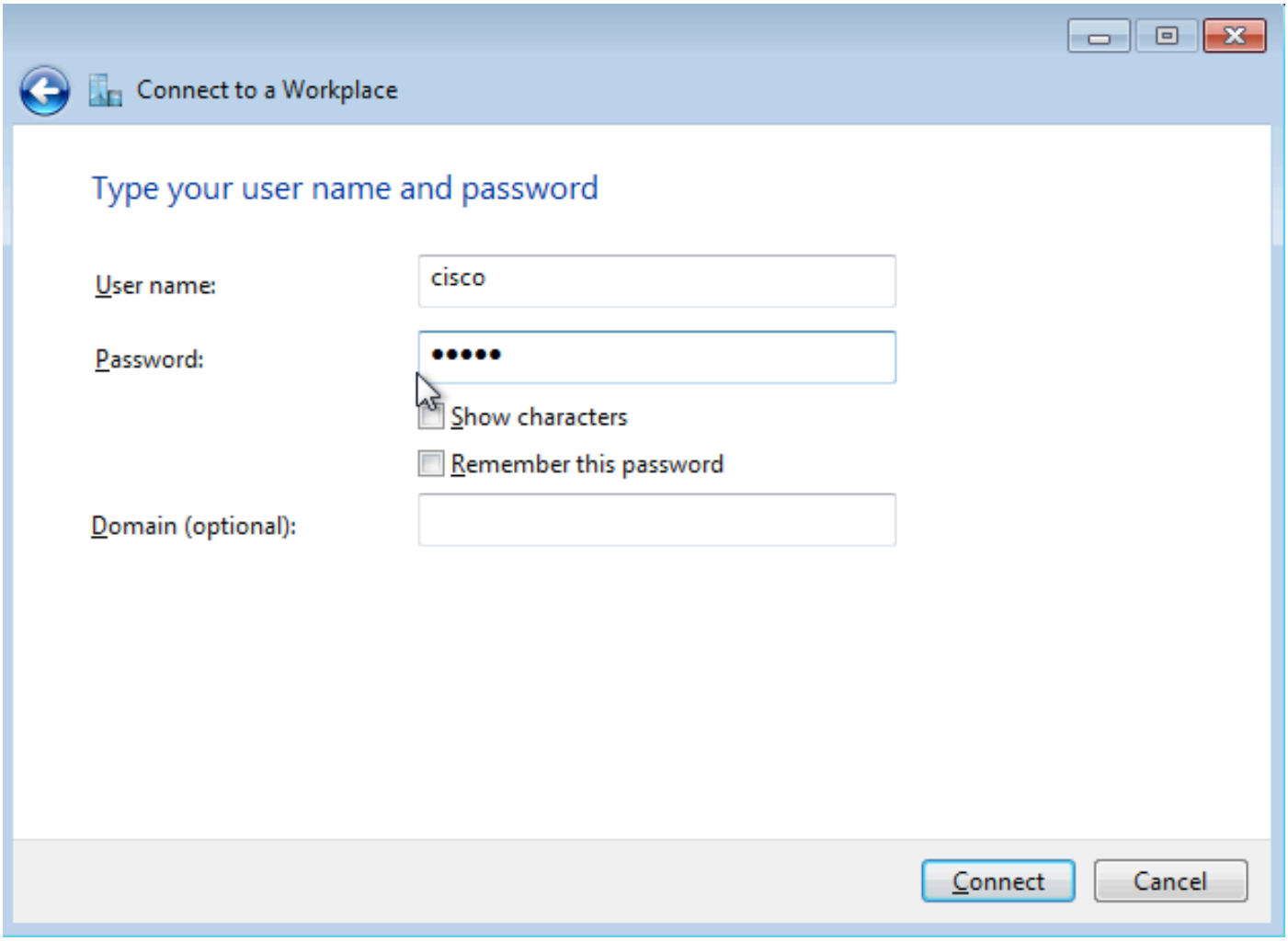
Passaggio 3. Selezionare **Usa connessione Internet (VPN)**



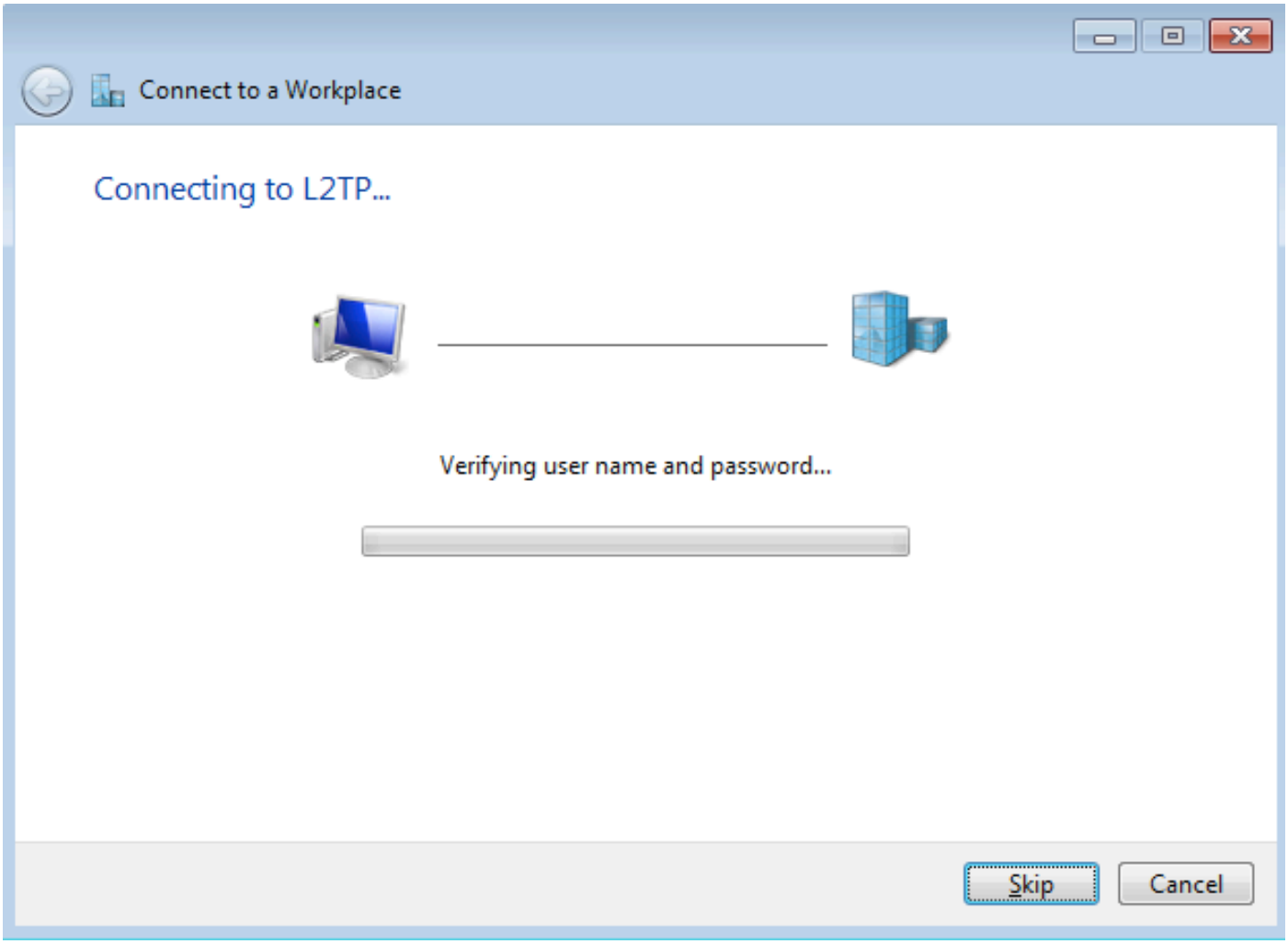
Passaggio 4. Immettere l'indirizzo IP dell'aggregatore (in questo caso 192.168.1.1), assegnare un nome alla connessione (in questo caso assegnando il nome come VPDN) e fare clic su **Avanti**.



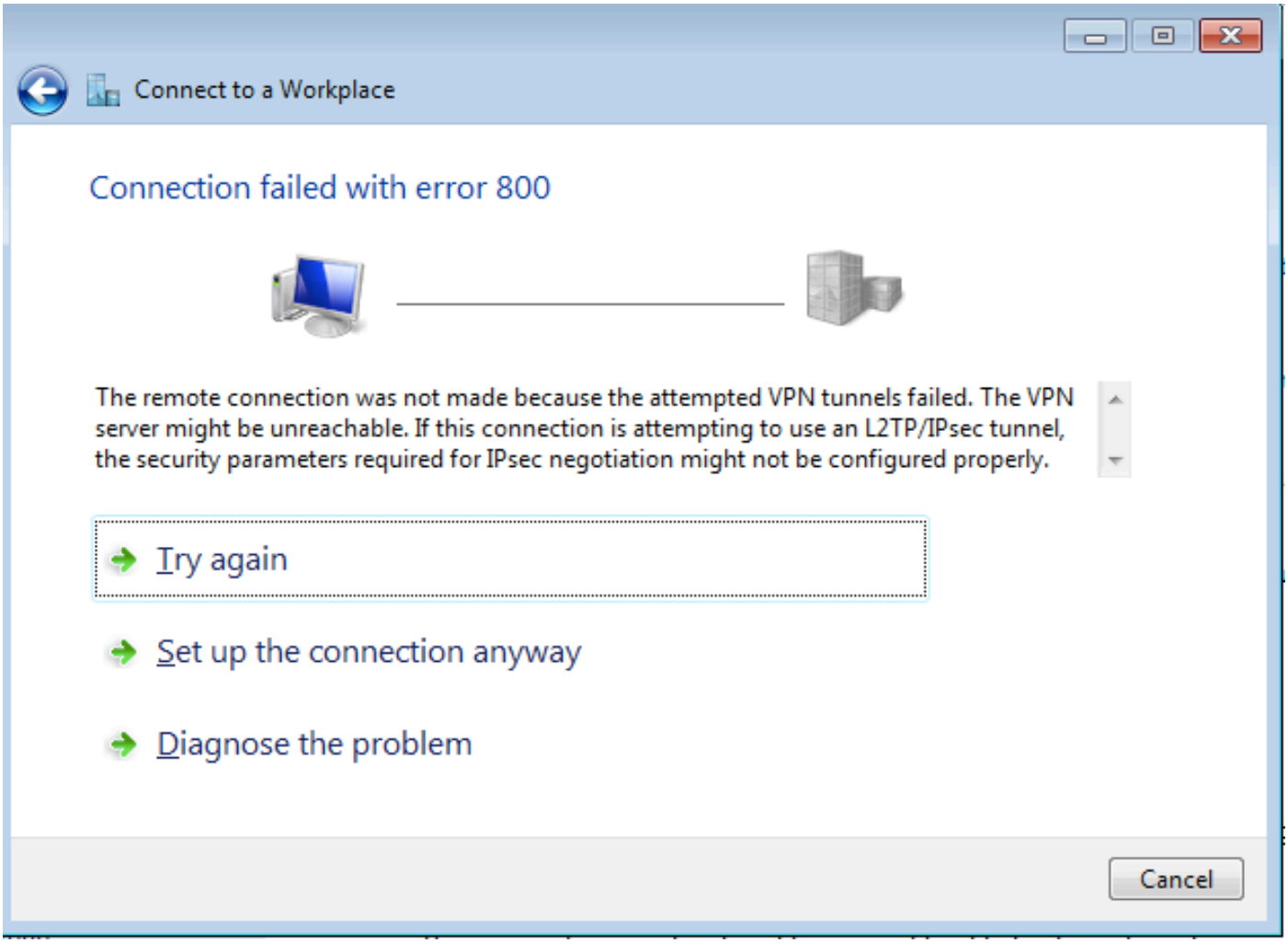
Passaggio 5. Immettere il nome utente e la password e fare clic su **Connetti**



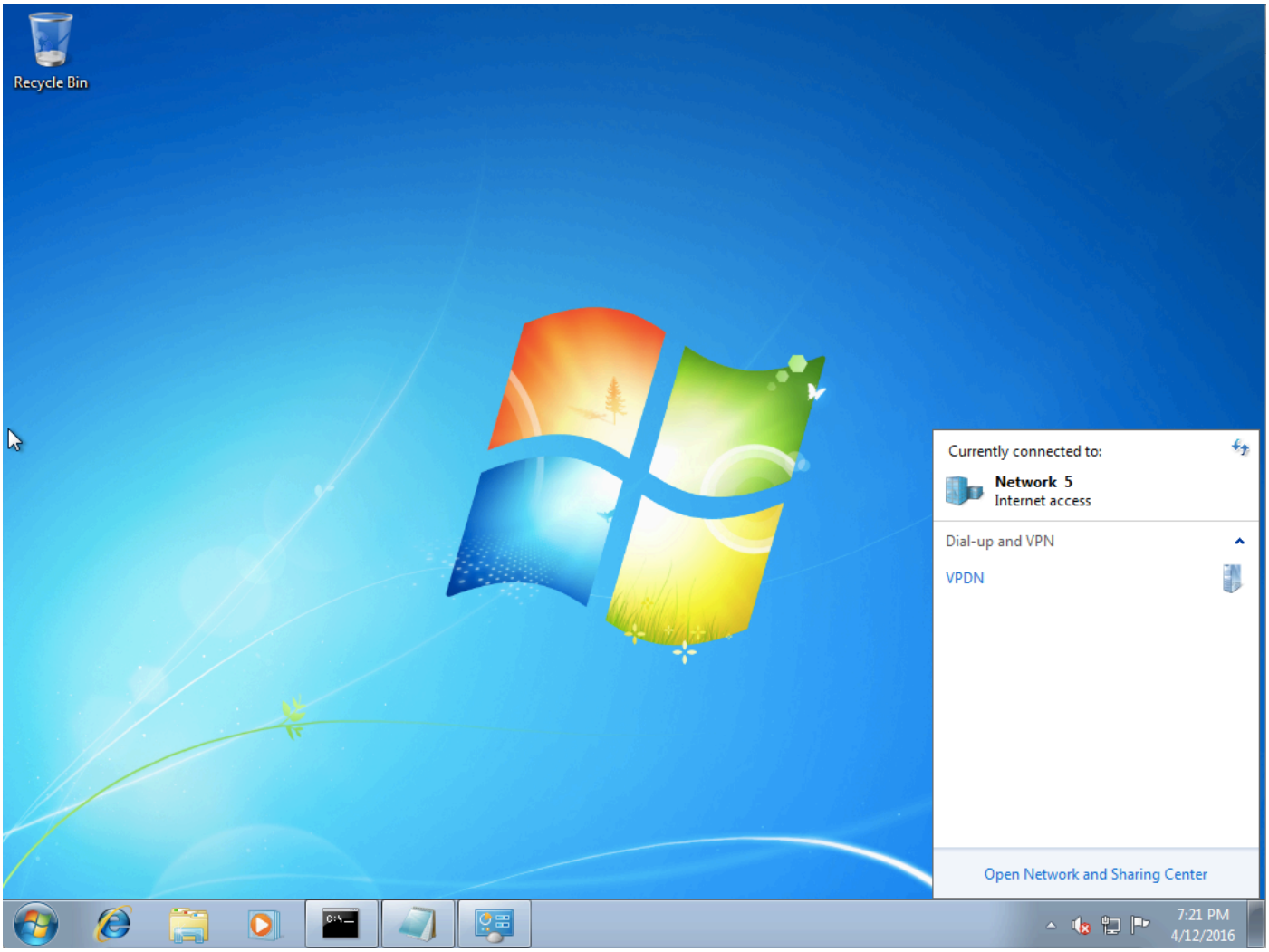
Passaggio 6. Verificare nome utente e password



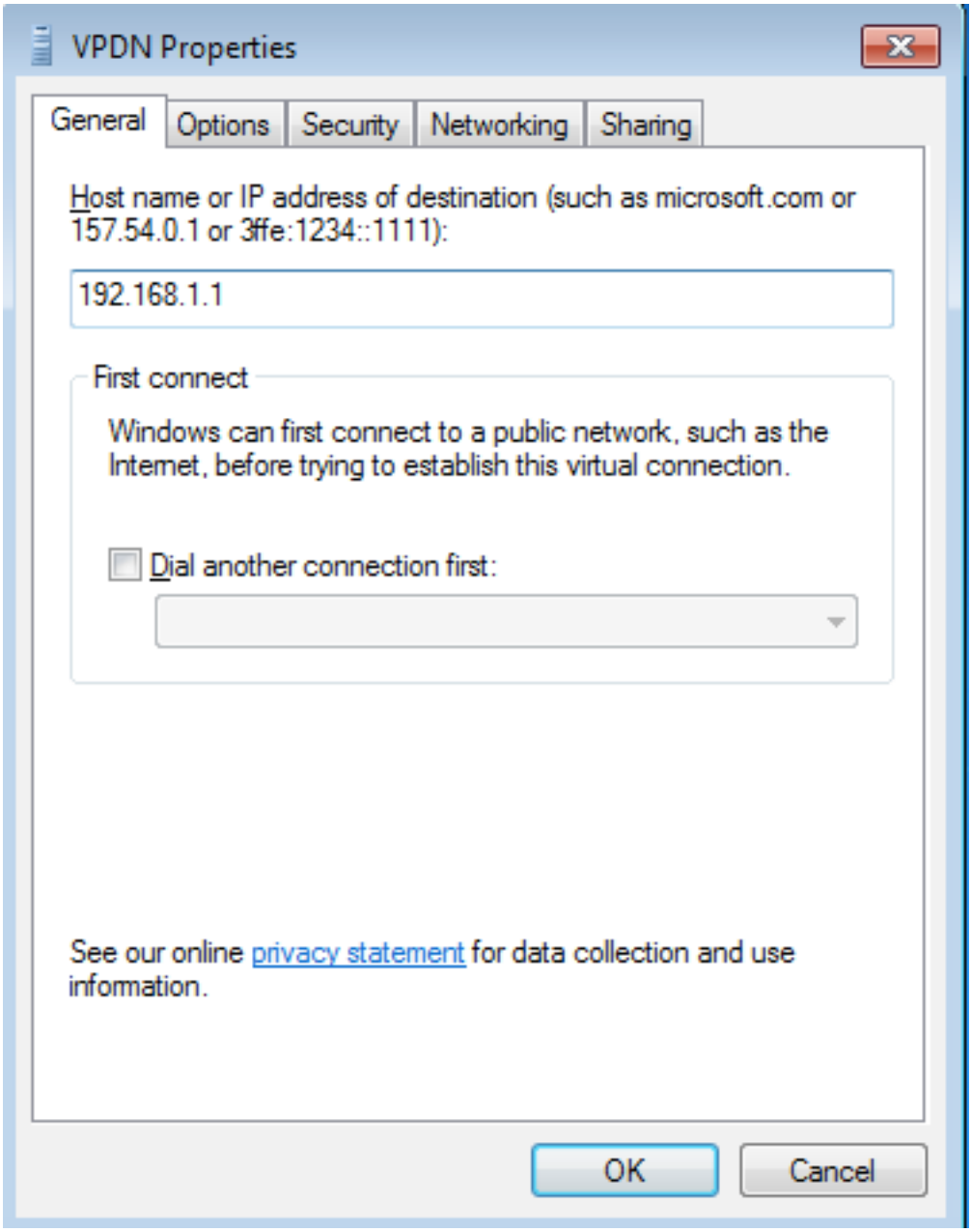
Passaggio 7. Potrebbe verificarsi un errore per la prima volta, come mostrato nell'immagine.



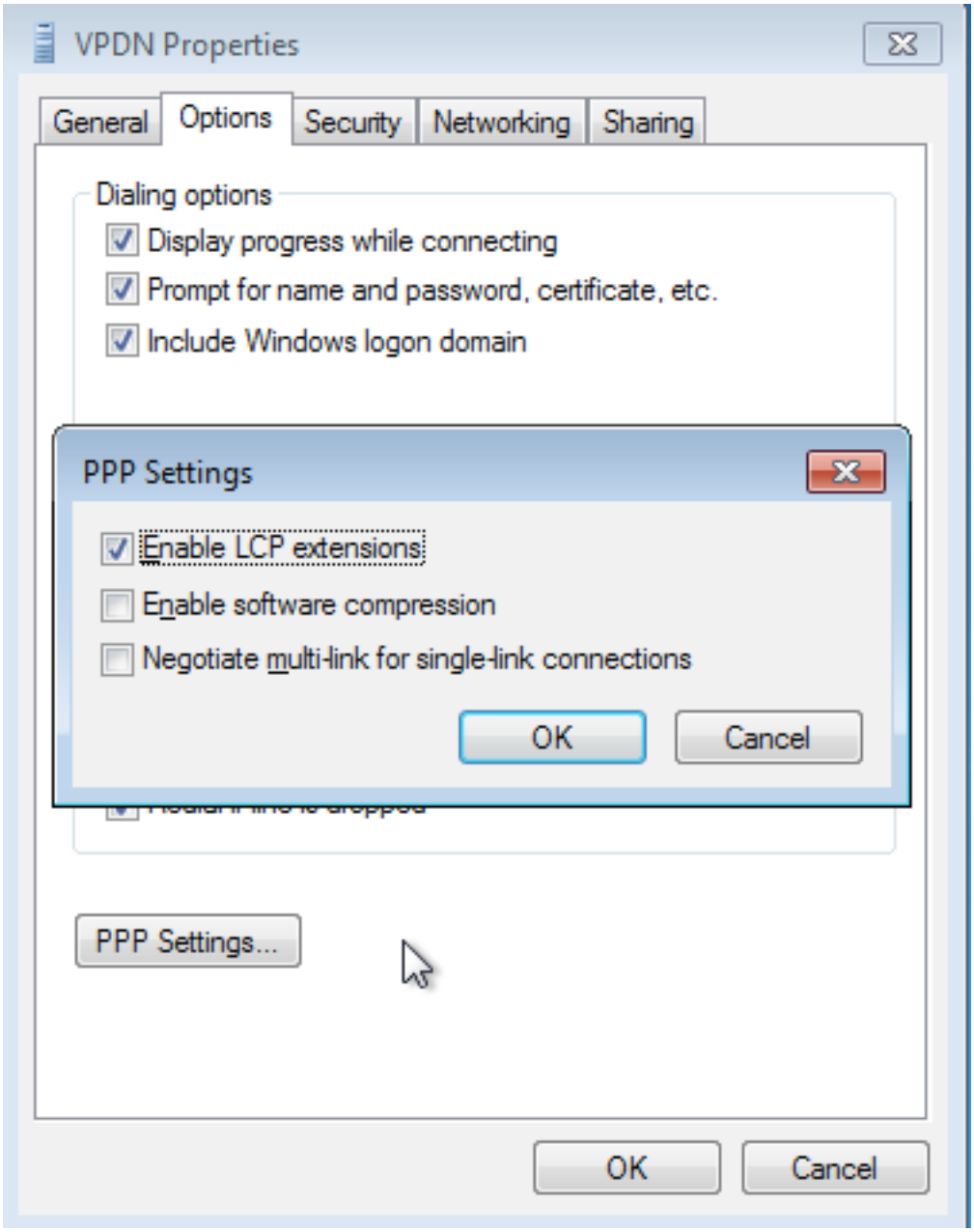
Passaggio 8. Fare clic su **Configura comunque la connessione** e aprire la scheda **Reti**.



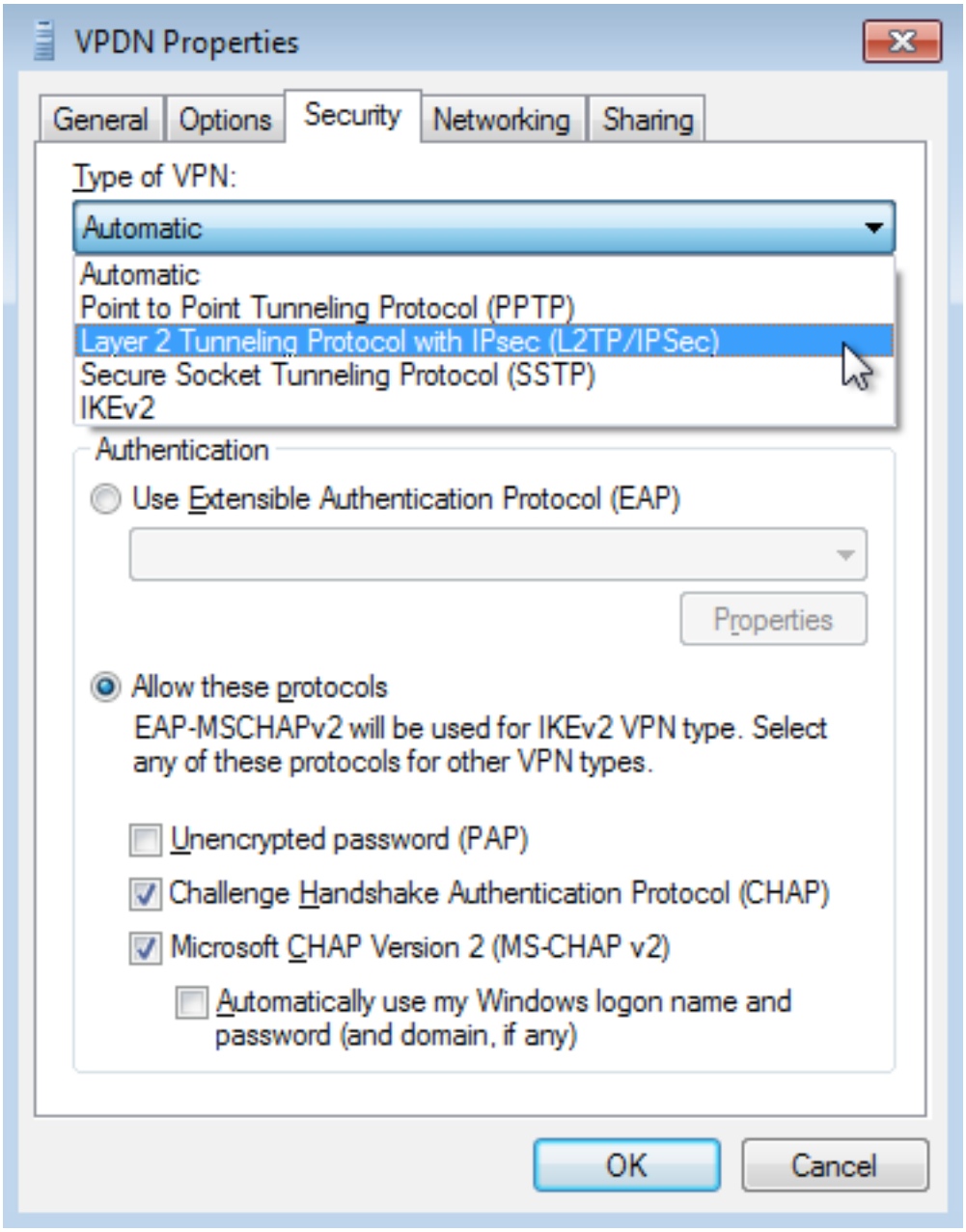
Passaggio 9. Fare clic con il pulsante destro del mouse sulla connessione (qui VPDN) e fare clic su **Proprietà**. Verificare l'indirizzo IP dell'aggregatore (qui 192.168.1.1)



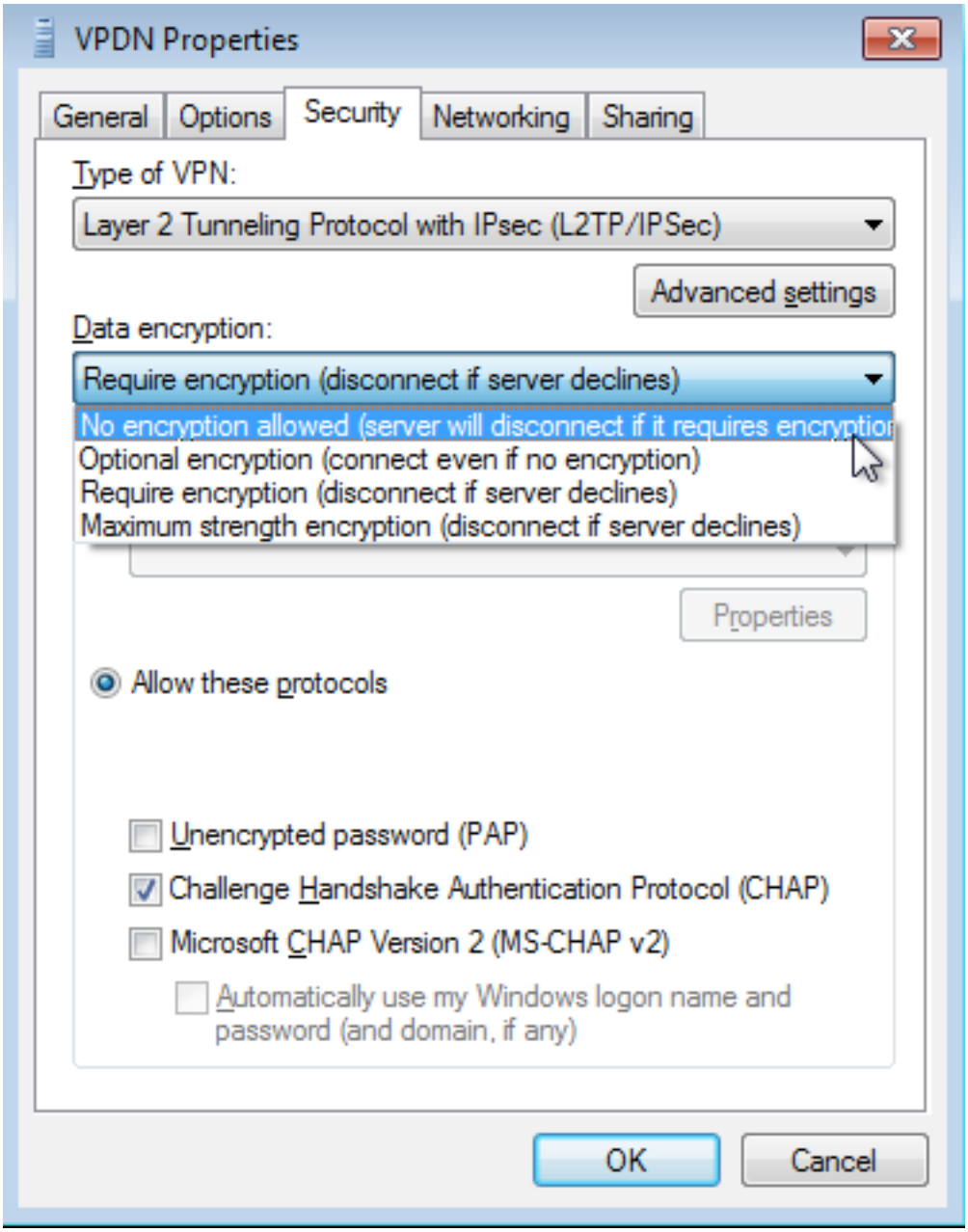
Passaggio 10. Passare a **Options>PPP Settings** (Opzioni>**Impostazioni PPP)** e verificare le impostazioni, come mostrato nell'immagine.



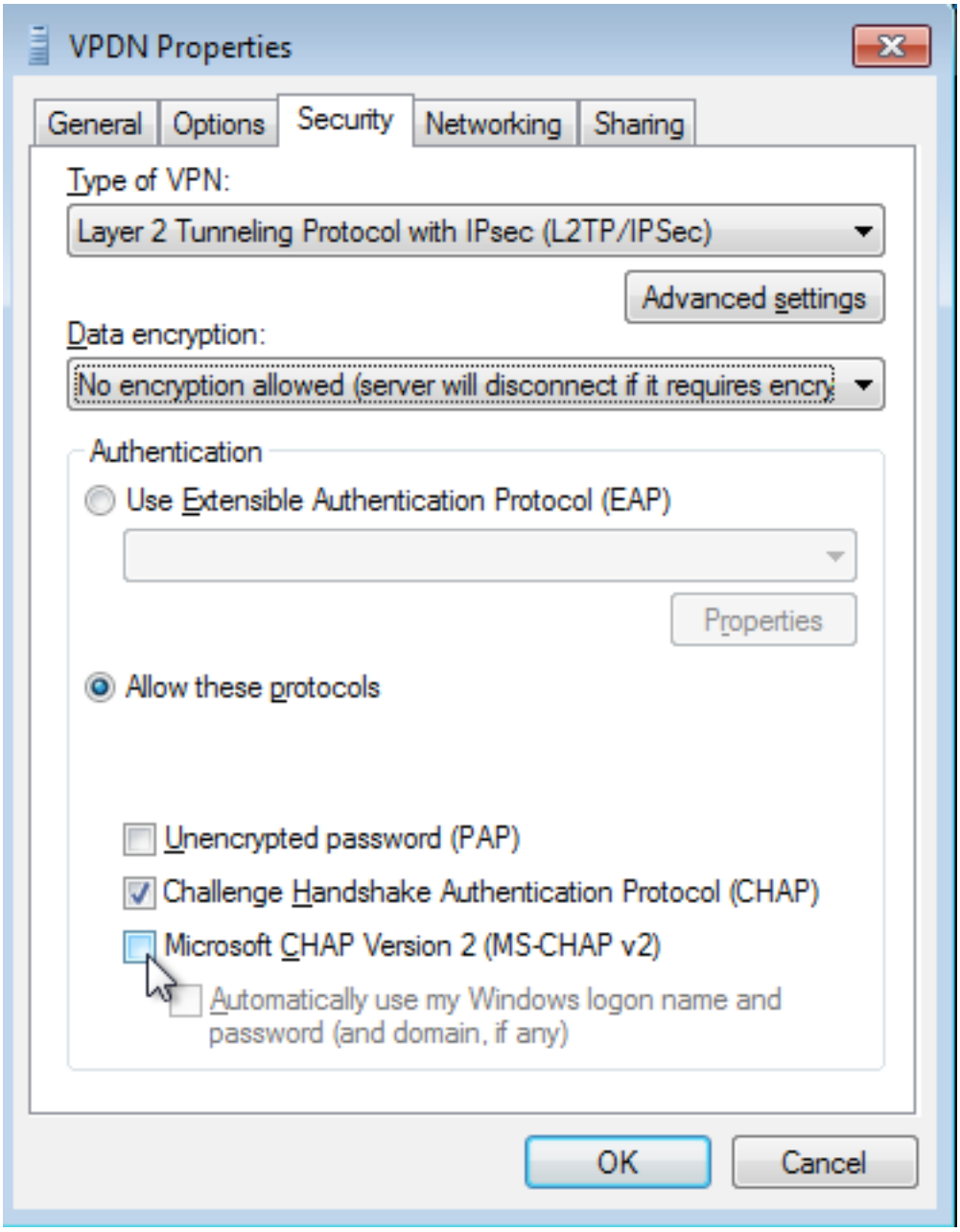
Passaggio 11. Passare a **Security >Type of VPN > Layer 2 Tunneling Protocol with IPsec**, come mostrato nell'immagine.



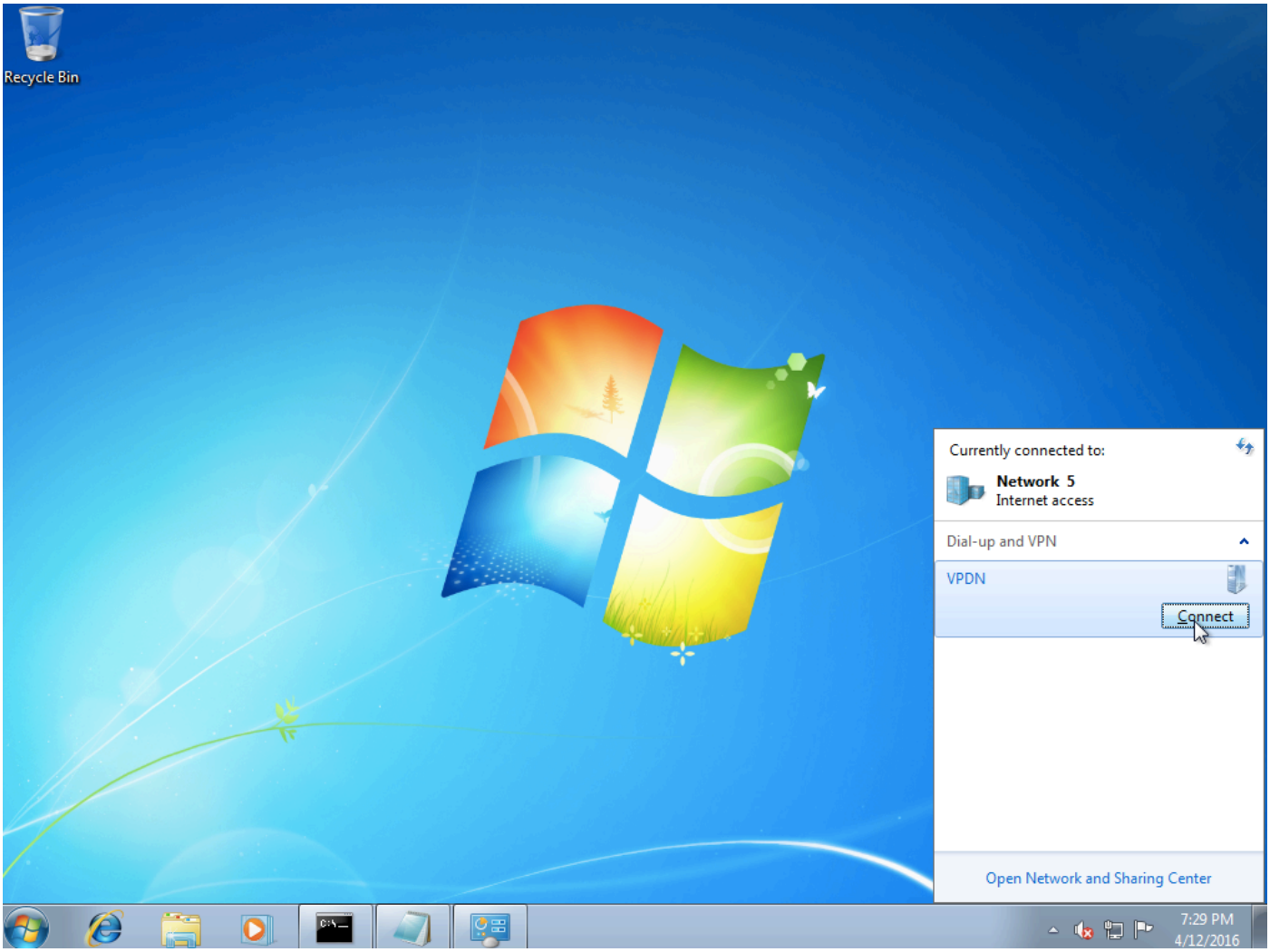
Passaggio 12. Selezionare l'opzione **Nessuna crittografia consentita** nel menu a discesa Crittografia dati:



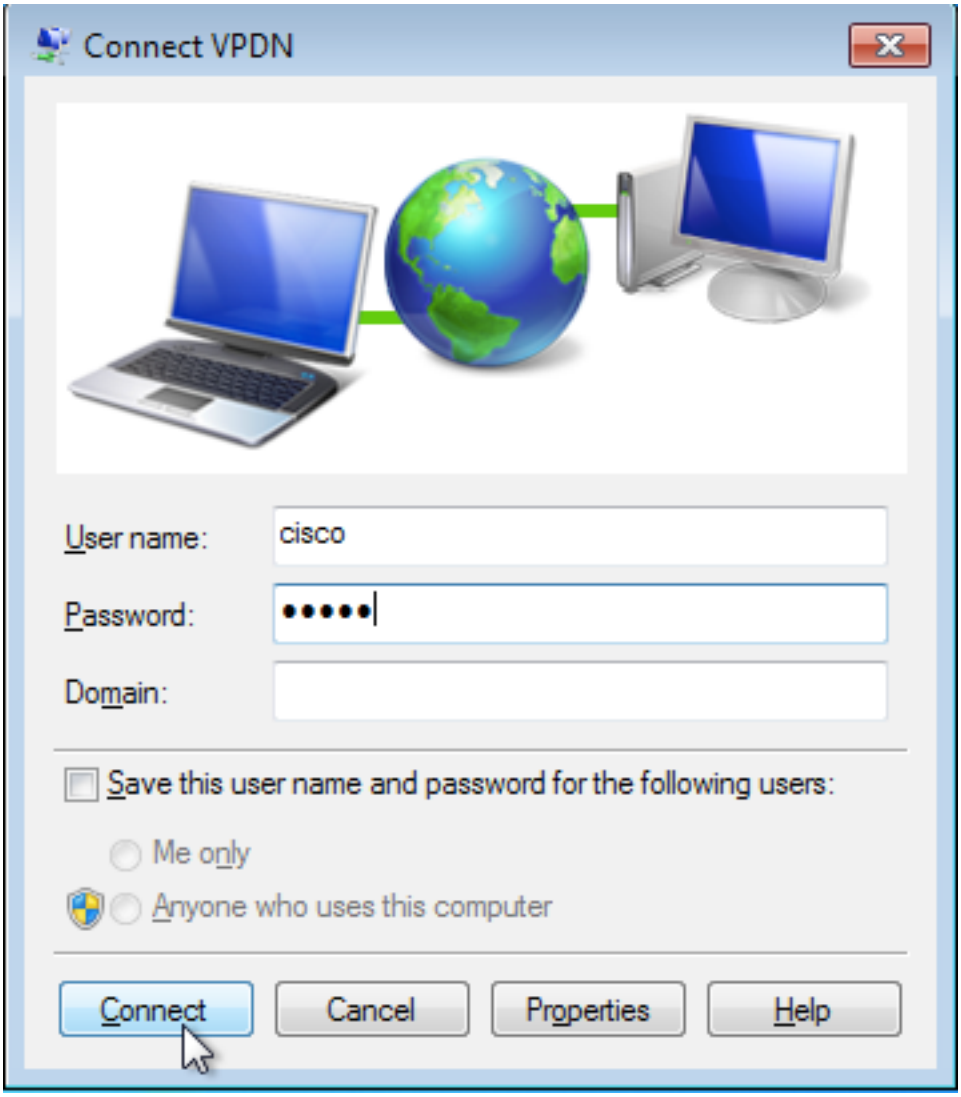
Passaggio 13. Deselezionare **Microsoft CHAP versione 2** e fare clic su **OK.**



Passaggio 14. Aprire la rete (qui VPDN) e fare clic su **Connect (Connetti).**

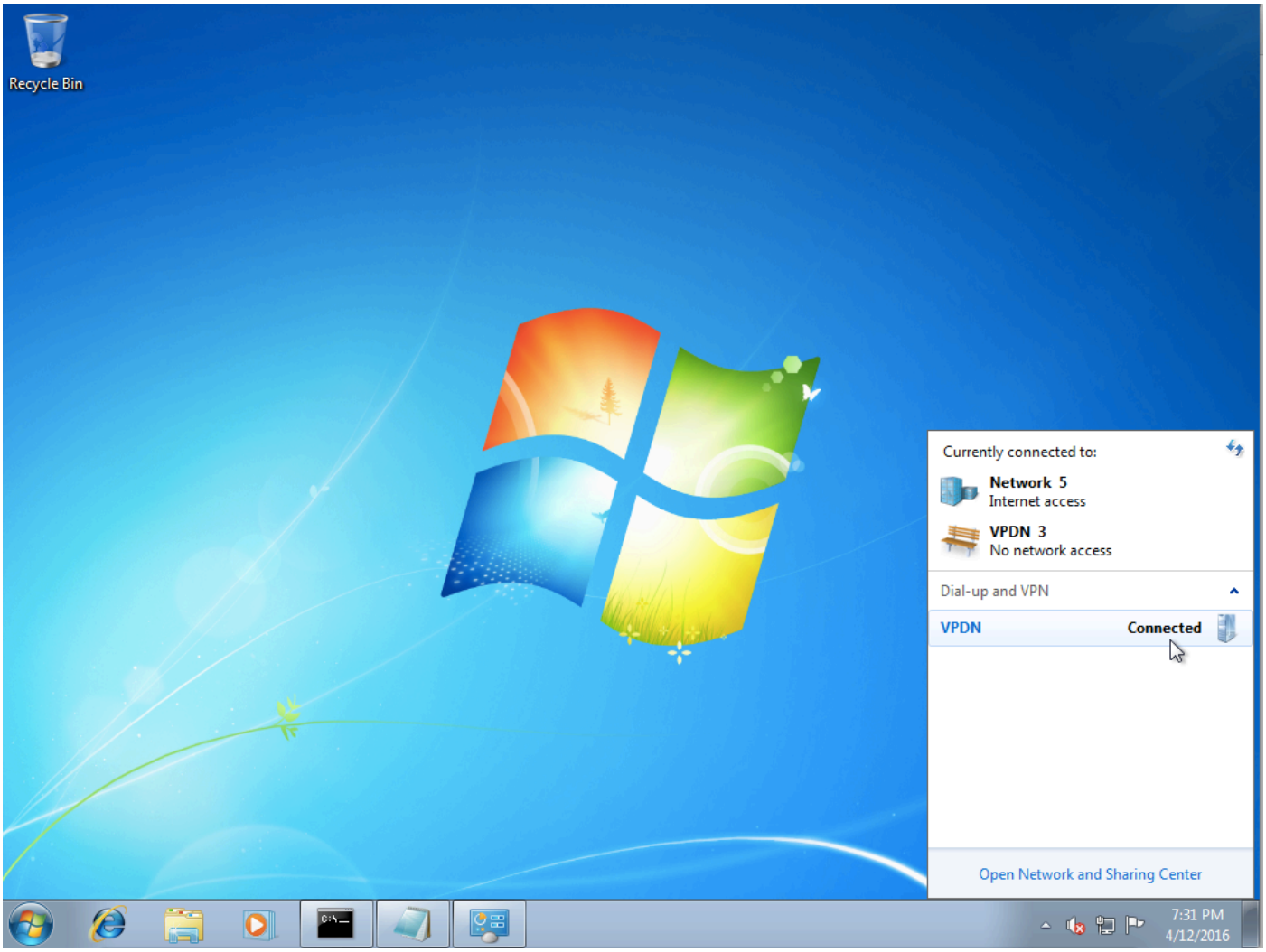


Passaggio 15. Inserire il nome utente e la password e fare clic su **Connect (Connetti)**



Verifica

Passaggio 1. Aprire nuovamente la scheda **Reti**, selezionare la rete (in questo esempio la VPDN) e verificare che lo stato sia Connesso.



Passaggio 2. Aprire il prompt dei comandi ed eseguire il comando **ipconfig /all**.

```
PPP adapter VPDN:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : VPDN
   Physical Address. . . . . . . . . :
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   IPv4 Address. . . . . . . . . . . : 10.1.1.9(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.255.255
   Default Gateway . . . . . . . . . : 0.0.0.0
   DNS Servers . . . . . . . . . . . : 4.2.2.1
                                       4.2.2.2
   NetBIOS over Tcpip. . . . . . . . : Enabled
```

L'indirizzo IPv4 e il DNS (Domain Name Server) vengono assegnati dall'aggregatore dopo il completamento della fase IPCP (Internet Protocol Control Protocol).

Passaggio 3. Eseguire il comando **debug ppp negotiation** e gli altri comandi show su Aggregator:

```
Aggregator#
*Apr 12 06:17:38.148: PPP: Alloc Context [38726D0C]
*Apr 12 06:17:38.148: ppp11 PPP: Phase is ESTABLISHING
*Apr 12 06:17:38.148: ppp11 PPP: Using vpn set call direction
*Apr 12 06:17:38.148: ppp11 PPP: Treating connection as a callin
```

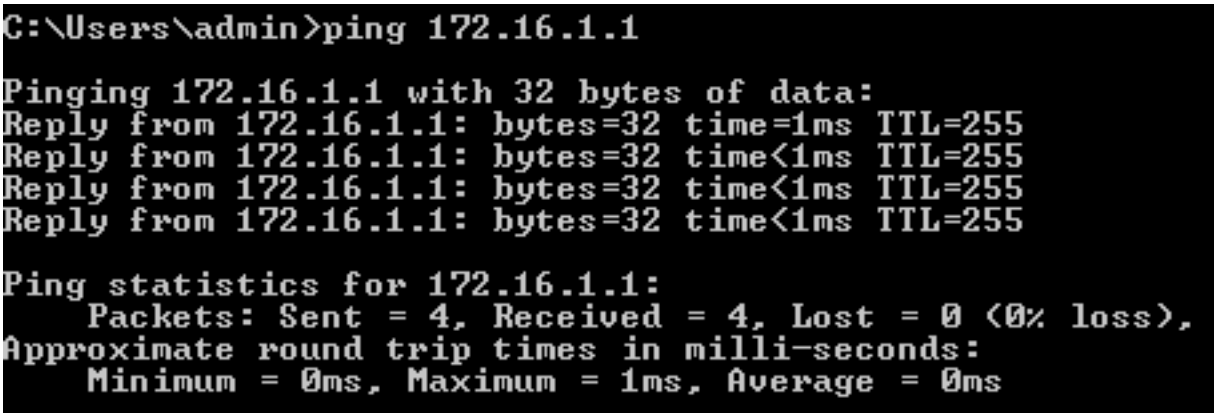
```
*Apr 12 06:17:38.148: ppp11 PPP: Session handle[A600000B] Session id[11]
*Apr 12 06:17:38.148: ppp11 LCP: Event[OPEN] State[Initial to Starting]
*Apr 12 06:17:38.148: ppp11 PPP: No remote authentication for call-in
*Apr 12 06:17:38.148: ppp11 PPP LCP: Enter passive mode, state[Stopped]
*Apr 12 06:17:38.607: ppp11 LCP: I CONFREQ [Stopped] id 0 len 21
*Apr 12 06:17:38.607: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.607: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.607: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.607: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.607: ppp11 LCP:    Callback 6 (0x0D0306)
*Apr 12 06:17:38.608: ppp11 LCP: O CONFREQ [Stopped] id 1 len 10
*Apr 12 06:17:38.608: ppp11 LCP:    MagicNumber 0xF7C3D2B9 (0x0506F7C3D2B9)
*Apr 12 06:17:38.608: ppp11 LCP: O CONFREJ [Stopped] id 0 len 7
*Apr 12 06:17:38.608: ppp11 LCP:    Callback 6 (0x0D0306)
*Apr 12 06:17:38.608: ppp11 LCP: Event[Receive ConfReq-] State[Stopped to REQsent]
*Apr 12 06:17:38.615: ppp11 LCP: I CONFACK [REQsent] id 1 len 10
*Apr 12 06:17:38.615: ppp11 LCP:    MagicNumber 0xF7C3D2B9 (0x0506F7C3D2B9)
*Apr 12 06:17:38.615: ppp11 LCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]
*Apr 12 06:17:38.615: ppp11 LCP: I CONFREQ [ACKrcvd] id 1 len 18
*Apr 12 06:17:38.615: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.615: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.616: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.616: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.616: ppp11 LCP: O CONFNAK [ACKrcvd] id 1 len 8
*Apr 12 06:17:38.616: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.616: ppp11 LCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.617: ppp11 LCP: I CONFREQ [ACKrcvd] id 2 len 18
*Apr 12 06:17:38.617: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.617: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.617: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.617: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.617: ppp11 LCP: O CONFNAK [ACKrcvd] id 2 len 8
*Apr 12 06:17:38.617: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.617: ppp11 LCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.618: ppp11 LCP: I CONFREQ [ACKrcvd] id 3 len 18
*Apr 12 06:17:38.618: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.618: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.618: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.618: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.618: ppp11 LCP: O CONFACK [ACKrcvd] id 3 len 18
*Apr 12 06:17:38.618: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.618: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.618: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.619: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.619: ppp11 LCP: Event[Receive ConfReq+] State[ACKrcvd to Open]
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 4 len 18 magic 0x795C7CD1MSRASV5.20
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 5 len 24 magic 0x795C7CD1MSRAS-0-ADMIN-PC
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 6 len 24 magic 0x795C7CD1Z8Of(U3G.cIwR<#!
*Apr 12 06:17:38.626: ppp11 PPP: Queue IPV6CP code[1] id[7]
*Apr 12 06:17:38.626: ppp11 PPP: Queue IPCP code[1] id[8]
*Apr 12 06:17:38.640: ppp11 PPP: Phase is FORWARDING, Attempting Forward
*Apr 12 06:17:38.640: ppp11 LCP: State is Open
*Apr 12 06:17:38.657: Vi3.1 PPP: Phase is ESTABLISHING, Finish LCP
*Apr 12 06:17:38.657: Vi3.1 PPP: Phase is UP
*Apr 12 06:17:38.657: Vi3.1 IPCP: Protocol configured, start CP. state[Initial]
*Apr 12 06:17:38.657: Vi3.1 IPCP: Event[OPEN] State[Initial to Starting]
*Apr 12 06:17:38.657: Vi3.1 IPCP: O CONFREQ [Starting] id 1 len 10
*Apr 12 06:17:38.657: Vi3.1 IPCP:    Address 172.16.1.1 (0x0306AC100101)
*Apr 12 06:17:38.657: Vi3.1 IPCP: Event[UP] State[Starting to REQsent]
*Apr 12 06:17:38.657: Vi3.1 PPP: Process pending ncp packets
*Apr 12 06:17:38.657: Vi3.1 IPCP: Redirect packet to Vi3.1
*Apr 12 06:17:38.657: Vi3.1 IPCP: I CONFREQ [REQsent] id 8 len 34
*Apr 12 06:17:38.657: Vi3.1 IPCP:    Address 0.0.0.0 (0x030600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:    PrimaryDNS 0.0.0.0 (0x810600000000)
```

```
*Apr 12 06:17:38.657: Vi3.1 IPCP:    PrimaryWINS 0.0.0.0 (0x820600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:    SecondaryDNS 0.0.0.0 (0x830600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:    SecondaryWINS 0.0.0.0 (0x840600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP AUTHOR: Done. Her address 0.0.0.0, we want 0.0.0.0
*Apr 12 06:17:38.657: Vi3.1 IPCP: Pool returned 10.1.1.9
*Apr 12 06:17:38.657: Vi3.1 IPCP: O CONFREJ [REQsent] id 8 len 16
*Apr 12 06:17:38.658: Vi3.1 IPCP:    PrimaryWINS 0.0.0.0 (0x820600000000)
*Apr 12 06:17:38.658: Vi3.1 IPCP:    SecondaryWINS 0.0.0.0 (0x840600000000)
*Apr 12 06:17:38.658: Vi3.1 IPCP: Event[Receive ConfReq-] State[REQsent to REQsent]
*Apr 12 06:17:38.658: Vi3.1 IPV6CP: Redirect packet to Vi3.1
*Apr 12 06:17:38.658: Vi3.1 IPV6CP: I CONFREQ [UNKNOWN] id 7 len 14
*Apr 12 06:17:38.658: Vi3.1 IPV6CP:    Interface-Id F0AA:D7A4:5750:D93E (0x010AF0AAD7A45750D93E)
*Apr 12 06:17:38.658: Vi3.1 LCP: O PROTREJ [Open] id 2 len 20 protocol IPV6CP
(0x0107000E010AF0AAD7A45750D93E)
*Apr 12 06:17:38.672: Vi3.1 IPCP: I CONFACK [REQsent] id 1 len 10
*Apr 12 06:17:38.672: Vi3.1 IPCP:    Address 172.16.1.1 (0x0306AC100101)
*Apr 12 06:17:38.672: Vi3.1 IPCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]
*Apr 12 06:17:38.672: Vi3.1 IPCP: I CONFREQ [ACKrcvd] id 9 len 22
*Apr 12 06:17:38.672: Vi3.1 IPCP:    Address 0.0.0.0 (0x030600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    PrimaryDNS 0.0.0.0 (0x810600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    SecondaryDNS 0.0.0.0 (0x830600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP: O CONFNAK [ACKrcvd] id 9 len 22
*Apr 12 06:17:38.672: Vi3.1 IPCP:    Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.672: Vi3.1 IPCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.747: Vi3.1 IPCP: I CONFREQ [ACKrcvd] id 10 len 22
*Apr 12 06:17:38.747: Vi3.1 IPCP:    Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.747: Vi3.1 IPCP:    PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.747: Vi3.1 IPCP:    SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.747: Vi3.1 IPCP: O CONFACK [ACKrcvd] id 10 len 22
*Apr 12 06:17:38.748: Vi3.1 IPCP:    Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.748: Vi3.1 IPCP:    PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.748: Vi3.1 IPCP:    SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.748: Vi3.1 IPCP: Event[Receive ConfReq+] State[ACKrcvd to Open]
*Apr 12 06:17:38.768: Vi3.1 IPCP: State is Open
*Apr 12 06:17:38.769: Vi3.1 Added to neighbor route AVL tree: topoid 0, address 10.1.1.9
*Apr 12 06:17:38.769: Vi3.1 IPCP: Install route to 10.1.1.9


Aggregator#show caller ip
 Line           User       IP Address      Local Number    Remote Number   <->
 Vi3.1          -          10.1.1.9        -               -               in

Aggregator#show ip interface brief | exclude un
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0/1   192.168.1.1     YES manual up                    up
Loopback100            172.16.1.1      YES manual up                    up
```

Passaggio 4. Verificare se il computer Windows può raggiungere la rete remota dietro Aggregator (in questo caso interfaccia Loopback 100)



Risoluzione dei problemi

Al momento non sono disponibili informazioni specifiche per la risoluzione dei problemi di questa configurazione.

Informazioni correlate

- Informazioni sulla VPDN
- TDocumentazione e supporto tecnico - Cisco Systems